2009 Annual Drinking Water Quality Report

"Water is the driving force of all nature"
-Leonardo da Vinci

2009

MURRAY WATER DEPARTMENT

Mayor's Massage

Dear Water Customer,

Water, Water, Everywhere?

We have just experienced one of the wettest springs in several years, however we still want you to think about conserving water. Though we have received all this moisture and even seen some local flooding along the Big and Little Cottonwood Creeks, it does not mean that this water was captured and stored for future use. As you may recall Murray's water system is dependent on ground water drawn from aquifers deep beneath the surface of the earth. The precipitation we receive on a yearly basis does help to replenish the aquifers, but it takes more than a good year to properly restock them.

Utah is one of the five fastest growing states in the nation and shares borders with the other four fastest growing states. In our semi-arid climate Utah is sprouting and growing at the equivalent of a City of 160,000 every 3 years. Murray City has seen our share of that growth. As we present our water quality report for the calendar year of 2009, we would like to remind you that ***water*** is one of the most important things many of us take for granted. We have become accustomed to turning on the taps in our homes or businesses and developed an expectation that water will come out. We believe it will be delivered in sufficient quantity to meet our needs and we expect it to be safe to consume.

Murray continues to enjoy ample supplies of water, but there is no guarantee for the future without conservation. Over the past 9 years we have been working to reach the Governor's water conservation goals of reducing our average per household water use by 25% by the year 2020. Since 2001 we have been encouraging conservation through education, encouraging installation of water saving fixtures, recommending outdoor watering schedules, offering free water audits as well as water rate changes. We would like to say thanks for your help in what has been accomplished thus far. We have seen almost a 19% decrease in per household use, but there is still much to accomplish to meet our goal. As you do your part to conserve, we continue to do our part looking to the future. We regularly update our master plan, protect our wells and water rights that we need to meet the City's future needs, as well as, plan for the systematic replacement of old infrastructure which is an important part of our water delivery system.

Please continue to work with us to find ways to reduce your use to help insure that we have adequate water for the future.

Warm Regards,

Daniel C. Snarr

Mayor

MURRAY

Water Saving Tips

Is it time for a sprinkler tune up?

Inspect your system zone by zone.

A. Check for inadequate coverage.

B. Look for broken or leaking heads.

C. Make sure that your heads are rising above the existing grass.

D. Make sure the right nozzles are being used in each application.

Now would be a good time to have a water audit if you have not already (1-877-728-3420). In the mean time, you should make sure that as you run your sprinklers, the water has time to soak in and not just run off, or cycle and soak.

Make a map of your yard and identify each sprinkler zone. Make sure that your sprinkler clock can be programmed to each zone independently.

Last of all, keep a watering guide where it can be seen so that you don't just set your clock and forget it for the season.

Recommended Watering Guide

Month	Interval
Early Spring	As needed
May	Once every 4 days
June	Once every 3 days
July	Once every 3 days
August	Once every 2-3 days
September	Once every 4-6 days
October 1st till shut down	Once every 6 to 10 days

Watering times should be set between the hours of 6:00 pm and 6:00 am.

Are You Contaminating Your Water?

Most back flow incidents occur as a result of using a hose without proper back flow protection. A hose bib vacuum breaker provides adequate back flow protection for garden hoses. Both the International Plumbing Code and the International Residential Code require that all new potable water outlets for hose attachments (threaded hose bib faucets) and lawn sprinkling systems are to be protected against back flow with an approved device to match the application. The use of a hose bib vacuum breaker on all threaded hose bib faucets is strongly recommended. Hose bib vacuum breakers are available at most plumbing supply outlets.

For a list of approved devices you can contact the Murray City Water Department, 801-270-2440.

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. It is important to remember that the presence of these contaminants does not necessarily pose a health risk. Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the **Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).**

Frequently Asked Questions

Water Department employees		16
Murray water service area population		36,000
Total gallons used		2,928,575,000
Total acre feet		8,988
Number of water sources	Deep wells	19
	Springs	7
Average hardness of water supply		200 mg/L 12 grains/gallon
Water service connections		9,898
Total miles of water lines		185
Total fire hydrants	(City owned)	1247
	(Privately owned)	511
Water storage capacity (gallons)		12,000,000
Number to call for a water audit		1-877-728-3420 1-877-save-H20
Water conservation information		Murray.utah.gov www.jvwcd.org

Important Phone Numbers

Emergency / After Hours:
801-264-9669

Public Services, Water, Wastewater, Streets, General Office:
801-270-2440

Public Services, Engineering, General Office:
801-270-2400

Public Services, Planning and Zoning, General Offices:
801-270-2420

MURRAY

JORDAN VALLEY WATER CONSERVANCY DISTRICT
Delivering Quality Every Day

EPA WaterSense PARTNER

Murray City's Consumer Confidence Report

We are pleased to present Murray City's 2009 Annual Drinking Water Quality Report. This report is designed to inform you about the quality of the water and services we deliver to you every day. We are committed to continually making improvements to our water system to ensure that the quality of your water is safe, dependable and properly protected.

Murray City obtains its water from springs and underground water wells along with a small amount of water purchased from Salt Lake City, Big Cottonwood Surface Water Treatment Plant.

Murray City routinely monitors for contaminants in our drinking water in accordance with the Federal and State Drinking Water Rules. The following table shows the results of our monitoring for the calendar year of 2009, beginning January 1, through December 31, 2009.

How To Read The Chart

This chart lists the most recent test results for the facilities listed and indicates the most likely source of contamination. The data is a range for all wells and springs with the lowest and the highest levels.

Maximum Contamination Level (MCL) is the highest level of a contaminant that is allowed in drinking water. Using the best available technology, MCL's are set as close to the goal as feasible. Maximum Contaminant Levels Goal (MCLG) is the level of a contaminant in drinking water below which there is no known or expected health risk. MCGL's allow for a margin of safety. In addition to the parameters listed in this report, Murray City monitors for many unregulated contaminants. The results are available at the Public Services office.

Key to Table

MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MFL	Million fiber per liter (measures asbestos)
NTU	Nephelometric Turbidity Units (cloudiness)
Cfu	Colony forming units (bacterial cell colonies)
pci/L	Picocuries per liter (radioactive units)
ppm	Parts per million (mg/l 1 penny in $10,000)
ppb	Parts per billion (ug/l, 1 penny in $10 million)
ppt	Parts per trillion (1 penny in $10 billion)
ppq	Parts per quadrillion (1 penny in $10 trillion)
TT	Treatment technique, method
UR	(unregulated, no EPA standard set)
ND	Non-detected (less than the method can see)
SW	State waiver (never used or detected)
NR	Non reportable
NE	Not established

Murray City's Consumer Confidence Report

Substance	Units	MCL	MCLG	Murray City ND/Low-High	Most Likely Source of Contamination
Distribution System Contaminants					
Residents Lead	ppm	0.015	0.015	<0.005	Leaching from lead solder in home.
Residents Copper	ppm	1.3	1.3	.01 to.48	Leaching from copper piping in home
Chloroform	ppb	NE	NE	1 to 1.3	By-product of drinking water chlorination
Total Coliform Bacteria	Total Coliform	Presence of coliform bacteria in 5% of monthly samples	0	< 5%	Naturally present in the environment
Fecal Coliform Bacteria	Total Fecal	A routine sample & repeat sample are total coliform positive, & one is also fecal coliform or E. coli positive.	0	0	Human and animal fecal waste
Turbidity	NTU	5	0.03	0 to .6	Soil runoff
THM's Total Trihalomethanes	ppb	80	0	0 to 3.4	By - product from drinking water chlorination
Fluoride	ppm	4	4	.9 to 1.1	Water additive which promotes strong teeth

Substance	Units	MCL	MCLG	Murray City ND/Low-High	Most Likely Source of Contamination
Radioactive Contaminants					
Alpha emitters	pCi/l	15	0	1.4 to 12.2	Erosions of natural deposits
Radon	pC/l	UR	NE	300 to 590	Erosions of natural deposits
Radium 226	pCi/l	5	0	0.06	Erosions of natural deposits
Radium 228	pC/l	5	0	.1 to .9	Erosions of natural deposits

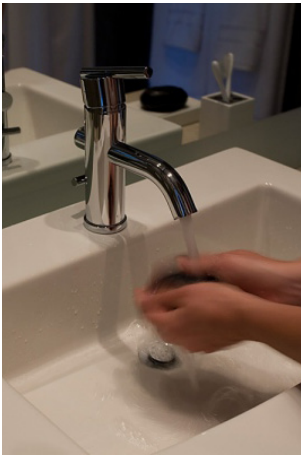
Substance	Units	MCL	MCLG	Murray City ND/Low-High	Most Likely Source of Contamination
Inorganic Contaminants					
Ammonia	ppm	NE	NE	<.050 to .20	Erosions of natural deposits
Antimony	ppm	0.006	0.006	ND	Erosions of natural deposits
Arsenic	ppm	0.05	0.05	<.005 to.003	Erosions of natural deposits
Asbestos	MFL	7	7	ND	Erosions of natural deposits
Barium	ppm	2	2	.03 to .21	Erosions of natural deposits
Beryllium	ppm	0.004	0.004	ND	Discharge from coal burning factories
Cadmium	ppm	0.005	0.005	ND	Erosions of natural deposits
Chromium	ppm	0.1	0.1	ND	Erosions of natural deposits
Copper	ppm	1.3	1.3	0.12	Erosions of natural deposits
Cyanide	ppm	0.2	0.2	ND	Erosions of natural deposits
Fluoride	ppm	4	4	.2 to .4	Erosions of natural deposits
Lead	ppm	0.015	0	0.011	Erosions of natural deposits
Mercury	ppm	0.002	0.002	ND	Erosions of natural deposits
Nitrate (as N)	ppm	10	10	0 to 4.1	Excess fertilization
Nitrite (as N)	ppm	1	1	ND	Fertilizer runoff
Selenium	ppm	0.05	0.05	.0015 to .003	Erosions of natural deposits
Sodium	ppm	NE	NE	9.3 to 110	Erosions of natural deposits
Sulfate	ppm	500	500	18 to 102	Erosions of natural deposits
Thallium	ppm	0.002	0.5	ND	Leaching from ore processing sites

Substance	Units	MCL	MCLG	Murray City ND/Low-High	Most Likely Source of Contamination
Secondary Inorganic Contaminants					
Chloride	ppm	250	NE	10 to 210	Erosions of natural deposits
Magnesium	ppm	UR	NE	7.8 to 43.8	Erosions of natural deposits
Hardness	ppm	UR	NE	81 to 463	Erosions of natural deposits
Iron	ppm	0.3	0.3	<.050 to .97	Erosions of natural deposits
TDS	ppm	1000	1000	88 to 620	Erosions of natural deposits
pH@25 C	units	6.5 to8.5	6.5 to 8.5	7.44 to 7.98	Measures acidity or alkalinity of water
Potassium	ppm	NE	NE	1.5 to 8.4	Erosions of natural deposits
Hardness	grains/gallon	UR	NE	4.76 to 27.21	Erosions of natural deposits
Silicon	ppm	UR	NE	5.7 to 10	Erosions of natural deposits
Zinc	ppm	5	5	<.01 to .018	Erosions of natural deposits

Substance	Units	MCL	MCLG	Murray City ND/Low-High	Most Likely Source of Contamination
Synthetic Organic Substances					
2,4 - D	ppb	70	70	ND	Runoff from herbicide used on crops
2, 4, 5 - TP	ppb	50	50	ND	Residue of banned herbicide
Acrylamide	ppb	TT	0	ND	Added to water during sewage treat
Alachlor	ppb	2	0	ND	Runoff from herbicide used on crops
Atrazine	ppb	3	3	ND	Runoff from herbicide used on crops
Benzo (a) pyrene	ppt	200	0	ND	Leaching from tanks and pipes
Carbofuran	ppb	40	40	ND	Leaching of soil fumigant used on alfalfa
Chlordane	ppb	2	0	ND	Residue of banned insecticide
Dalapon	ppb	200	200	ND	Runoff from herbicide
Di (2-ethylhexly) adipate	ppb	400	400	ND	Discharge from chemical factories
Di (2-ethylhexyl) phthalate	ppb	6	0	ND	Discharge from chemical factories, found in the lab
Dibromochloropropane	ppt	200	0	ND	Leaching of soil fumigant used on crops
Dinoseb	ppb	7	7	ND	Runoff from herbicide used on crops
Diquat	ppb	20	20	ND	Runoff from herbicide use
Dioxin	ppq	30	0	ND	Emissions from waste incinerators
Endothall	ppb	100	100	ND	Runoff from herbicide use
Endrin	ppb	2	2	ND	Residue of banned insecticide
Epichlorohydrin	ppb	TT	0	ND	Discharge from industrial chemical factories
Ethylene dibromide	ppt	50	0	ND	Discharge from petroleum refineries
Glyphosate	ppb	700	700	ND	Runoff from herbicide use
Heptachlor	ppt	400	0	ND	Residue of banned pesticide
Heptachlor epoxide	ppt	200	0	ND	Breakdown of heptachlor
Hexachlorobenzene	ppb	1	0	ND	Discharge from metal refineries
Hexachlorocyclopentadiene	ppb	50	50	ND	Discharge from chemical factories
Lindane	ppt	200	200	ND	Runoff from insecticide used on cattle/gardens
Methoxychlor	ppb	40	40	ND	Runoff from insecticide used on fruit/gardens
Oxamyl	ppb	200	200	ND	Runoff from insecticide used on apples/gardens
PCB ' s	ppt	500	0	ND	Runoff from insecticide used on apples/gardens
Pentachlorophenol	ppb	1	0	ND	Discharge from wood preserving factories
Picloram	ppb	500	500	ND	Herbicide runoff
Simazine	ppb	4	4	ND	Herbicide runoff
Toxaphene	ppb	3	0	ND	Runoff from insecticide used on cattle/cotton

Substance	Units	MCL	MCLG	Murray City ND/Low-High	Most Likely Source of Contamination
Volatile Organic Contaminants					
1,1,1- Trichloroethane	ppb	200	200	ND	Discharge from metal degreasing
1,1,2-Trichloroethane	ppb	5	3	ND	Discharge from industrial chemical factories
1,1-Dichloroethylene	ppb	7	7	ND	Discharge from industrial chemical factories
1,2,4-Trichlorobenzene	ppb	70	70	ND	Discharge from textile finishing factories
1,2-Dichloroethane	ppb	5	0	ND	Discharge from industrial chemical factories
1,2-Dichloropropane	ppb	5	0	ND	Discharge from industrial chemical factories
Benzene	ppb	5	0	ND	Leaching from gas storage tanks
Carbon tetrachloride	ppb	5	0	ND	Discharge from industrial chemical plants
Chlorobenzene	ppb	100	100	ND	Discharge from industrial chemical factories
Cis - 1, 2 - Dichloroethylene	ppb	70	70	ND	Discharge from industrial chemical factories
Dichloromethane	ppb	5	0	ND	Discharge from pharmaceutical factories
Ethylbenzene	ppb	700	700	ND	Discharge from petroleum refineries
O - Dichlorobenzene	ppb	600	600	ND	Discharge from industrial chemical factories
P- Dichlorobenzene	ppb	75	75	ND	Discharge from industrial chemical factories
Styrene	ppb	100	100	ND	Discharge from rubber and plastic factories
Tetrachloroethylene	ppb	5	0	ND	Discharge from metal degreasing sites & factories
Toulene	ppm	1	1	ND	Discharge from petroleum refineries
Trans - 1, 2 - Dichloroethylene	ppb	100	100	ND	Discharge from industrial chemical factories
Trichloroethylene	ppb	5	0	ND	Discharge from metal degreasing and factories
Vinyl Chloride	ppb	2	0	ND	Leaching from PVC piping:
Methylene Chloride	ppb	UR	UR	ND	Discharge from chemical factories
Xylenes	ppm	10	10	ND	Discharge from petroleum factories

MURRAY 1903



How Water Smart Are You?

Q. How many toilets are there in residential use today?
A. 222,000,000

Q. How many new toilets are sold each year for new and replacement installation?
A. 10,000,000

Q. Toilets account for what percentage of your homes inside water use?
A. 30%

Q. What is Murray City's per capita water use per day?
A. 229 gallons per day, per person

Q. Can changing a toilet make a noticeable difference in my water use?
A. Depending on how many people are in your home and how old your existing toilets are, you could save as much as 10,000 gallons per year, or enough to fill an above ground back yard pool, if you chose to change all of your water using devices in our home to water sense approved devices

Q. What is water sense?
A. Water Sense is an Environmental Protection Agency (EPA) sponsored testing and certification service that uses a standardized testing protocol and establishes criteria for the test to be done.

Q. What does it mean to me?
A. You can feel confident that if you purchase something with the Water Sense logo, it will not only work properly, it will save as much water as expected.

In the past many of the available water saving fixtures did not save much water and in some cases used more, especially with toilets having to making multiple flushes to get them to work properly. The manufacturers have heard the complaints and went back to the drawing board to design similar fixtures with improved water moving features. Testing services such as Water Sense has helped to standardize the goals for water conservation and offer the consumer more confidence in purchasing these products.

Murray City has become an active partner with Water Sense as a part of our water conservation plan and are recommending that you look for and purchase fixtures with the Water Sense Logo.

EPA WaterSense

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